

REMARKS

Examiner Kelly L. Jerabek is thanked for the thorough examination and search of the subject Patent Application.

Claims 1, 8 and 26 have been amended.

All Claims are believed to be in condition for Allowance, and that is so requested.

Reconsideration of rejected claims 1 - 8, 10 – 16, and 26 under 35 U.S.C. 103(a) as being unpatentable over Narayanaswami et al (US pub. 2003/0011684), hereinafter Narayanaswami, in view of Inoue et al. (US 6,273,535), hereinafter Inoue, is requested based on amended claims 1, 8 and 26 and on following remarks:

The amended claim 1 of the claimed invention teaches:

1. A method of embedding camera information and image capture related information in a digital form of an image, comprising:
 - receiving information on a first static camera characteristic **suitable to enhance image reproduction**;
 - receiving information on a first static camera characteristic **suitable to identify a camera that is the source of the image**;
 - receiving camera setting information related to a first captured digitized image;
 - generating an encryption key based at least in part on the first static camera characteristic;
 - embedding a watermark in said first captured digitized image, wherein the watermark contains at least a portion of the information on the first static characteristic and at least a portion of the camera setting information related to said first captured digitized image; and
 - encrypting the watermark using the encryption key.

The phrase “static camera characteristic” is e.g. explained in the description (p.3, line 30 – p.4, line 3):

“The first static camera characteristic may be, by way of example, a camera image sensor bad pixel characteristic, may be related to a sensor current value, or may be related to a camera image sensor sensitivity.”

Furthermore the use of static camera characteristic is outlined (p.18, lines 8-15):

“In addition, as previously discussed, when embedded in an image the static camera characteristic information may be used to **uniquely identify the camera that is the source of the image**. The possessor of the camera can then demonstrate that the camera was the source of the image. This may be accomplished by examining the static camera characteristics of the camera, such as bad pixel information, color sensitivities, and so on, and to determine if they match the corresponding static camera characteristic information embedded in the image. If they match, then there it is likely that the camera was used to capture the image.”

Moreover it is disclosed in the description of the claimed invention how the first camera characteristic is used to enhance reproduction of an image (p. 4, lines 24-28):

“Optionally, the method further comprises **enhancing the image specifically for a reproduction device** which will be used to generate a reproduction of the enhanced image. By way of example, the **camera characteristic information** includes a pointer into a **gamma correction lookup table**.²

Narayanaswami does neither disclose “receiving information on a first static camera characteristic suitable to enhance image reproduction”, nor “receiving information on a first static camera characteristic suitable to identify a **camera** that is the source of the image” as the claimed invention does in base claim 1.

Furthermore it should be noted that Narayanaswami does not disclose any parameters which are specifically owned by each individual camera and which are suitable to enhance image reproduction as e.g. bad pixel characteristics. Such parameters are claimed in claim 1 by "receiving information on a first static camera characteristic suitable to enhance image reproduction".

Inoue disclose an image forming system wherein the image date are stored in a digital camera as shown in Fig. 1 and described (Col. 4 lines 6-18):

"The digital camera 1 stores input-device-unique information unique to the device in a status memory 4. Also, the digital camera 1 photoelectrically converts an image into an electrical signal using a CCD and the like, and holds a plurality of images as digital image data in an image memory 5. At the same time, the digital camera 1 stores the input states of the individual images held in the image memory 5 and parameters of color processing and the like executed in the digital camera in an image additional information memory 6 as image additional information 11. **Such information is stored in a RAM or a nonvolatile RAM, or a magnetic storage medium or magneto-optical recording medium.**"

This means that according to Inoue's invention the printer must be **directly attached** the digital camera because the image data are stored in a memory of the camera.

Furthermore it has to be noted that Inoue does not disclose " receiving information on a first static camera characteristic **suitable to identify a camera that is the source of the image;**"

Inoue discloses in his **Fig. 2** that the digital input device unique information includes **camera type information**, but no information suitable to identify a **specific camera** that

is the source of the image taken, as e.g. a fabrication number or other properties which are unique to a single camera.

In regard of claim 1, none of the applied or known references address the claimed invention as disclosed in claim 1 in which a method comprising “receiving information on a first static camera characteristic **suitable to identify a camera that is the source of the image**,” is described as the claimed invention does in base claim 1.

Furthermore it should be noted that a combination of the invention of Narayanaswami, disclosing a method automatically watermarking recorded parameters for providing digital image verification, with the invention of Inoue, disclosing an image forming system, is believed not to be obvious because it is known in the art that the amount of information, which can be stored in a watermark is some orders of magnitudes smaller than the amount of information which can be transferred by a direct link as e.g. a cable disclosed by Inoue.

To achieve the method of claim 1 of the claimed invention, which includes camera information and image capture related information in association with a digital form of an image, comprising “receiving information on a first static camera characteristic **suitable to enhance image reproduction**;” and “receiving information on a first static camera characteristic **suitable to identify a camera that is the source of the image**;” it would be not be obvious to combine the invention of Narayanaswami disclosing “a system and methods for digital image **verification**” with the invention of Inoue et al. disclosing a

system wherein “a digital camera stores input-device-unique information” and “the digital camera is connected to a printer by, e.g., an IEEE1394 I/F”. The claimed invention is believed to be patentable over the prior art cited, as it is respectfully suggested that the combination of these various references cannot be made without reference to Applicant's own invention. None of the applied references address or suggest a “receiving information on a first static camera characteristic **suitable to identify a camera that is the source of the image**” while this is an important feature of the claimed invention to enhance image reproduction. Applicant has claimed his methods in detail.

Claims 2-7 are dependent claims upon base claim 1, which is believed to be patentable according the arguments above.

Claim 8 of the claimed invention teaches:

8. A digital camera system, comprising:

an imager;

a first static camera characteristic associated with the imager in regard of enhancing image reproduction;

a first static camera characteristic associated with the imager in regard of identifying a camera that is the source of an image;

a first variable camera setting;

a watermark generator used to embed in the form of a watermark at least one of said first static camera characteristic and said first variable camera setting information in an image captured by the camera; and

a key generator configured to generate an encryption key used to encrypt the watermark.

The same arguments apply for claim 8 as for claim 1 discussed above. Neither

Narayanaswami nor Inoue disclose “a first static camera characteristic associated with the imager in regard of identifying a camera that is the source of an image” as disclosed in claim 8 of the claimed invention.

None of the applied or known references address the claimed invention as shown in claim 8 in which a digital camera system comprising “a first static camera characteristic associated with the imager in regard of identifying a camera that is the source of an image” is described.

To achieve the camera system of claim 8 of the claimed invention, which includes camera information and image capture related information in association with a digital form of an image and a watermark generator, comprising “a first static camera characteristic associated with the imager in regard of identifying a camera that is the source of an image”, it would be not be obvious to combine the invention of Narayanaswami et al. disclosing “a system and methods for digital image verification” with the invention of Inoue et al. disclosing a system wherein “a digital camera stores input-device-unique information and “the digital camera is connected to a printer by, e.g., an IEEE1394 I/F”. The claimed invention is believed to be patentable over the prior art cited, as it is respectfully suggested that the combination of these various references cannot be made without reference to Applicant's own invention. None of the applied references address or suggest a comprising “a first static camera characteristic associated with the imager in regard of identifying a camera that is the source of an image” while this is an important feature of the claimed

invention to enhance image reproduction.. Applicant has claimed his camera system in detail.

Claims 10-16 are dependent claims upon base claim 8 which is believed to be patentable according the arguments above.

The amended claim 26 of the claimed invention teaches:

26.(currently amended) A method of including camera information and image capture related information in association with a digital form of an image, comprising:
capturing an image;
digitizing the image;
receiving information on a first static camera characteristic suitable to enhance image reproduction;
a first static camera characteristic associated with the imager **in regard of identifying a camera that is the source of an image**;
receiving camera setting information related to a first captured digitized image;
inserting in a data set associated with the digitized image at least a portion of the information on the first static characteristic; and
transmitting the digitized image and the data set to an image processor.

The same arguments apply to claim 26 as outlined above for claim 1.

The systems and methods of Claims 1-16 and 26 are believed to be novel and patentable over these various references as outlined above because there is not sufficient basis for concluding that the combination of claimed elements would have been obvious to one skilled in the art. That is to say, there must be something in the prior art or line of reasoning to suggest that the combination of these various references is desirable.

We believe that there is **no such basis for the combination**. We therefore request Examiner Kelly L. Jerabek to reconsider the rejection in view of these arguments.

Reconsideration of rejected claim **9** under 35 U.S.C. 103(a) as being unpatentable over Narayanaswami et al (US pub. 2003/0011684), in view of Inoue et al. (US 6,273,535) and further in view of Isnardi et al. US 6,037,984 is requested based on amended claim **8** and on following remarks:

Claim **9** is a dependent claims upon base claim **8** which is believed to be patentable according the arguments above.

Applicants have reviewed the prior art made of record and not relied upon and have discussed their impact on the present invention above.

Allowance of all Claims is requested.

It is requested that should the Examiner not find that the Claims are now allowable that the Examiner call the undersigned at 845-452-5863 to overcome any problems preventing allowance.

Respectfully submitted,


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